



VET NOTES

February 2010

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- September 2009 - Flexural deformities in the forelimbs of foals
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- July 2009 - Corneal ulcers
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Cryptorchidism in the horse

The word cryptorchid is derived from the Greek and translates to “hidden testicle.” The term is used to describe the failure of testicular descent into their normal scrotal location. More vernacular terms used by the layperson include rig, ridgling, high-flanker and original. Cryptorchidism has been noted to be the most common non-lethal developmental abnormality in the horse.

The cause of the condition has yet to be elucidated however it is generally accepted to result from a combination of multiple interrelated factors. Much research has been performed in an attempt to answer this question with genetic, hormonal and mechanical factors implicated. An epidemiological study of 5009 cases of equine cryptorchidism demonstrated a higher incidence in Percheron, American Saddle horse, American Quarterhorse and ponies. The fetal testicles begin development within the abdominal cavity and are suspended at the uppermost aspect of the abdomen beside the kidneys. A ligamentous structure known as the gubernaculum connects each testicle to the scrotum. Towards the end of gestation the gubernaculum begins to shorten or contract and as it does so the testicles begin their transabdominal migration. In the case of uncomplicated fetal development, the equine testicles have reached the scrotum sometime between 4 weeks before and 2 weeks after birth. If this process is interrupted for any reason the testicle may cease its descent. Consequently cryptorchids have been historically divided into those with abdominally retained testicle(s) and those with inguinally (within the lower body wall) retained testicle(s).

The incidence of left versus right testicle retention appears to occur with equal frequency however the site of retention does seem to differ. In a study of 350 cases of equine cryptorchidism it was found that 75% of left sided undescended testicles were abdominally retained and 25% inguinally. Conversely only 42% of right-sided undescended testicles were abdominally retained and 58% inguinally retained. This difference may be explained by the asynchronous descent of the left and right gonads. Bilateral cryp-

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orchidism has been reported in up to 14% of a large study of cryptorchid horses.

Horses are usually presented with a known history of failure of descent of one or both testicles, however others may present with an unknown history and an absence of testicular tissue within the scrotum, yet display persistent stallion-like behavior. Rarely the condition of monorchidism is encountered where an animal has only one testicle.

Diagnosis by your veterinarian is based on a thorough internal and external palpation and transrectal or transcutaneous ultrasonography. Several blood tests have also been developed for the detection of testicular tissue, which can diagnose up to 95% of cryptorchids. Other less sensitive diagnostic aids include the presence of secondary sex characteristics such as the presence of a cresty neck and muscular body, or stallion like behavior such as vocalization, sexual excitement and mounting behavior. It is prudent to note that some geldings may also display this type of activity as a learned behavior from prior to castration. Ultimately, the most definitive method of diagnosis is surgical exploration.

Treatment involves surgical removal of the retained testicle(s) and it is strongly recommended that the normal testicle also be removed at the same time. Depending on the location of the retained testicle, surgeon preference and available equipment several surgical approaches have been described. Techniques include inguinal, abdominal and laparoscopic approaches. With the advent of laparoscopy some retained testicles may be removed standing however most horses still undergo general anesthesia for the procedure. More recently there have been anecdotal reports on the use of acupuncture for the treatment of cryptorchid colts however peer reviewed scientific literature is lacking.

Cryptorchidism is considered heritable and affected horses are regarded as being genetically unsound. Owners are therefore counseled not to breed from affected individuals. Furthermore, most breed societies refuse to register affected individuals and thus the condition is of considerable economic significance. In addition, retained testicles still have the capacity to produce testosterone and are more vulnerable to the development of certain tumors. For these reasons cryptorchid horses should undergo complete surgical castration.

- March 2008 - The use of Oxytocin in the post-partum mare
- January 2008 - Preparing your mares for the breeding season
- January 2008 - Proximal hind limb suspensory desmitis: (PSD): Part II: Treatment
- December 2007 - Pleuropneumonia - when shipping fever turns into a nightmare
- November 2007 - Proximal hind limb suspensory desmitis (PSD): Part I: Diagnosis
- August 2007 - Intramuscular injections
- June 2007 - A hard pill to swallow
- April 2007 - The advantages of high fat/low carb diets
- March 2007 - Bandaging

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